# SCIENTIFIC AMERICAN.

THE ADVOCATE OF INDUSTRY AND ENTERPRISE, AND JOURNAL OF MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME I. NEW-YORK, THURSDAY, OCTOBER 16, 1845. NUMBER 8.



THE
**SCIENTIFIC AMERICAN,**
PUBLISHED EVERY THURSDAY MORNING, AT NO. 11 SPRUCE STREET, NEW YORK, NO. 12 STATE STREET, BOSTON, AND NO. 21 ARCADE, PHILADELPHIA,
THE PRINCIPAL OFFICE BEING IN NEW YORK,)

By RUFUS PORTER.

Each number will be furnished with from two to five original engravings, many of them elegant, and illustrative of *New Inventions, Scientific Principles*, and *Curious Works;* and will contain, in addition to the most interesting news of passing events, general notices of the progress of Mechanical and other *Scientific Improvements;* American and Foreign Improvements and Inventions; Catalogues of American Patents; Scientific Essays, illustrative of the principles of the sciences of Mechanics, Chemistry and Architecture; useful information and instruction in various Arts and Trades; Curious Philosophical Experiments; Miscellaneous Intelligence, Music and Poetry.

This paper is especially entitled to the patronage of Mechanics and Manufacturers, being the only paper in America devoted to the interests of those classes; but is particularly useful to farmers, as it will not only apprise them of improvements in agricultural implements, but instruct them in various mechanical trades, and guard them against impositions. As a family newspaper, it will convey more useful intelligence to children and young people, than five times its cost in school instruction. Another important argument in favour of this paper, is, that it will be worth two dollars at the end of the year when the volume is complete, and will probably command that price in cash, if we may judge from the circumstance that old volumes of the New York Mechanic, by the same editor, will now command double the original cost.

TERMS.—The "Scientific American" will be furnished to subscribers at $2,00 per annum,—one dollar in advance, and the balance in six months.

Five copies will be sent to one address six months, for four dollars in advance.

Any person procuring two or more subscribers, will be entitled to a commission of 25 cents each.


## Irish Machine Poetry.

Jem Dodge married old Judy Rouse—
Och she was a charming young bride;
With turf he then built a brick house,
And the front door was on the back side.
The roof it was tiled wid straw,
The cellar was on the first floor,
And the chimney, in order to draw,
Was built just outside the door.

A beggar was Teddy Malone,
His sister was his only brother!
He had nothing at all of his own,
Except what belonged to his mother.
One night Teddy says to the squire,
I'm so cold, give me something to eat,
I'm so dry, let me set by the fire,
And so hungry, I must warm my feet.

"Och! honey," one day says Pat Tigg,
For he was a scandalous glutton,
"To-morrow I'll kill my fat pig,
For I'm sure he'll make ilegant mutton."
So then he goes into the hovel,
And hangs the pig up by the heel,
So nate cut his throat with a shovel,
Saying this is the way to dress veal!

One day Paddy Mulligan swore
He had scalted his mouth to a blister,
While at dinner the morning before—
"And what was it wid?" asked his sister.
Says Paddy, "just thry for to guess!"
"Och, I can't"—"then I'll tell you my swate O,
'Twas nothing at all more or less,
Than a raw roasted frozen potato."

## Matrimony.

Marriage is like a flaring candle light
Placed in a window of a summer night,
Attracting all the insects of the air
To come and singe their pretty winglets there—
Those that are out, butt heads against the pane,
And those within, butt to get out again.

## D-r-u-n-k-.

"What has Alcohol done to me?" I answer:—
It through my shoes has forced my toes;
And made my friends my bitter foes;
And on my head rained showers of blows;
To cents reduced my old half-Joes;
And caused my wife her heaviest woes;
With hogs in gutters made me doze—
Tripped up my heels on Winter's snows,
And kept me there until I froze;
So poor and ragged made my clothes,
That I'm just fit to scare the crows;
And brought my days to near their close;
With many ills—the devil knows,
These ills my whole appearance shows—
But should you doubt it, view my nose.

# INDEPENDENT TRUNK LOCK

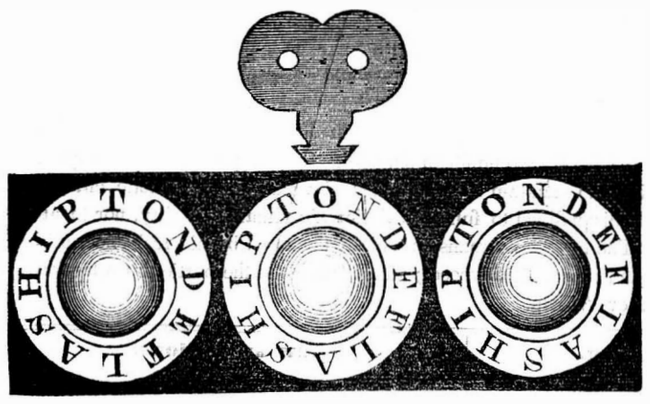
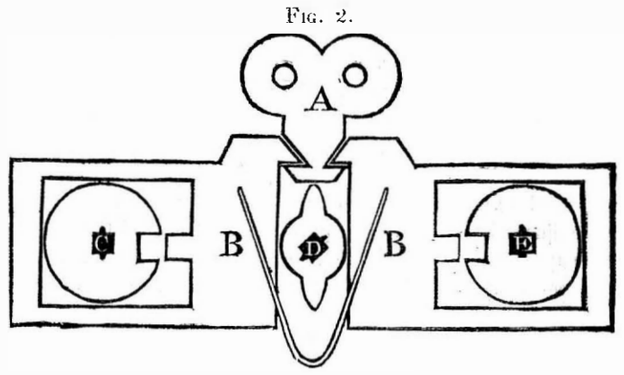


FIG. 2.




EXPLANATION.—This lock is called "Independent," on account of its being very safe and convenient without the use of a key. The first figure, shews a front view of the lock, with three metallic circles, on each of which are various letters, by means of which, the position of certain internal parts of the lock are known. For the purpose of releasing the catch from its fastenings, each of the three circles must be placed very precisely in a certain position; and the required positions are to be known only to the proprietor of the lock. So great is the variety of positions, of which these circles are capable, that of five millions of different locks, which should be made apparently alike, no two of them could be opened by the same rule: nor could the owner of one of them open that belonging to another. Even the maker of them could not open one in six months' trial, without knowing the peculiar secret of that particular lock. In fig. 2 is shown the interior construction, which may be explained with reference as follows: A, is the catch, which is to be attached to the lid of the trunk or chest; B, B are slides, which have liberty to move a short distance horizontally, and are drawn towards each other by a V spring, the two ends of which are attached to the two sides, near to B, B. From an upper corner of each slide, a projection or hook, takes to a corresponding projection from the catch; thus holding it fast. C, D, and E, are the axles of three cams, and correspond to the centres of the front circles. The cams C and E, have each a notch in its periphery, as is seen in the cut, and each slide has a corresponding projection; hence it becomes necessary that the positions of these two cams, should be placed in an exact position, to allow the two slides to recede, so as to relieve the catch. The cams C, and E, being adjusted, the slides are forced back by the motion of the cam D, which must also be placed in a particular position, to allow the catch to be raised. The slides are secured by grooves, or guides. The owner of one of these locks, may be able to open it in the dark, by means of certain minute projections or cavities in the peripheries of the circles. There is a considerable demand for these locks, and the patentee is desirous of having a quantity of them manufactured immediately, and will receive proposals at this office from those who have suitable facilities for the business.

DECLIVITY OF RIVERS.—A very slight declivity will suffice to give the running motion to water. Three inches per mile, in a smooth straight channel, gives a velocity of about three miles an hour. The Ganges, which gathers the waters of the Himlaya mountains, the loftiest in the world, is, at eighteen hundred miles from its mouth, only eight hundred feet above the level of the sea; that is about twice as high as St. Paul's church in London, and to fall these eight hundred feet, in its long course, the water requires more than a month. The great river Magdelena, in South America, running for a thousand miles between two ridges of the Andes, falls only five hundred feet in all that distance. Above the commencement of the thousand miles, it is seen descending in rapids and cataracts from the mountains. The gigantic Rio de la Plata, has so gentle a descent to the ocean, that in Paragua, fifteen hundred miles, from its mouth, large ships are seen, which have sailed against the current all the way, by the force of the wind alone; that is to say, which, on the beautifully inclined plane of the stream, have been gradually lifted by the soft wind, and even against the current, to an elevation greater than that of our loftiest spires.—[Arnot's Physics.

SPECIMEN OF THE ARTS IN RUSSIA.—A magnificent vase of sea-green jasper has lately arrived at St. Petersburgh, and been placed in the Palace of the Hermitage, having been cut by order of the Emperor in the mines of St. Colywan. The London Athenæum mentions the work, and states that its dimensions are colossal, its diameter being fifteen feet, and its weight, including the jasper pedestal, 418,898 pounds. The upper edges are sculptured in relief, and adorned with chasings of the most exquisite finish. In 1829 commenced the work of extracting the block from the quarries of the mountain Rewenwaga, near Colywan; in 1831 it was hoisted and dragged to the work-yard. For its transportation to St. Petersburg, 550 peasants, and 120—increased in places to 160—horses, were required. As it could not pass over the bridges, it had to be drawn across the rivers in winter, on ice four feet in thickness. Several times it broke through, but preparations had been made for such an event, and it was recovered from the water unmutilated. All the workmen employed, either in the work of art or in its conveyance, have received rewards from the Emperor.

THE EYES OF INSECTS.—How wonderfully constructed is this beautiful organ of insect vision!—How admirably adapted to the necessities of insect life! The gaudy dragon fly, presenting, as he does, such a conspicuous and tempting show of colors to the active swallow, eludes the feathered enemy by superior agility of flight. Mere agility, however, would avail nothing without the aid of powerful eyes. Accordingly nature has given him somewhat more than twelve thousand bright and piercing ones, some looking upwards, some downwards, some backwards, and some on either side. In the ants, there are fifty of these faces or eyes; in the horse-fly four thousand; in butterflies, no less than seventeen thousand three hundred and fifty-five have been counted—nay, in some coleopterous or scaly winged insects, there have been numbered no less than twenty-eight thousand & twenty-eight.—[True Sun.

BRAZING SOLDERS.—Workers in metals will find the following order of the hardness of solders useful:—3 parts copper, 1 part zinc, very hard; 8 parts brass, 1 part zinc, hard; 6 parts brass, 1 part tin, 1 part zinc, soft. A common solder for iron, copper, and brass, consists of nearly equal parts of copper and zinc.

THE MECHANIC.—A young man commenced visiting a young woman, and appeared to be well received. One evening he called at the house when it was quite late, which led the girl to inquire where he had been. "I had to work late to-night," he replied. "Do you work for a living?" inquired the astonished girl. "Certainly," replied the young man, "I am a mechanic." "My brother doesn't work," she remarked, 'and, I dislike the name of a mechanic," and she turned her pretty nose.

That was the last time the mechanic visited the young woman. He is now a wealthy man, and has one of the best of women for his wife. The young woman who disliked the name of a mechanic, is now the wife of a miserable tool—a regular vagrant about grog-shops—and she, poor and miserable girl, is obliged to take in washing in order to support herself and children.

Ye who dislike the name of mechanic—whose brothers do nothing but loaf and dress—beware how you treat young men who work for a living. Far better discard the well-fed pauper, with all his rings, jewelry, brazen-facedness and pomposity, and take to your affections the callous-handed, intelligent, and industrious mechanic. Thousands have bitterly regretted their folly, who have turned their backs on honest industry. A few years of bitter experience taught them a severe lesson. In this country, no man or woman in health, should be respected, in our way of thinking, who will not work bodily or mentally, and who curl their lips with scorn when introduced to hard working men. *Ex.*

THE BITER BITTEN.—Some one has told an anecdote something like this:—a gambler challenged an old pilot on the Mississippi to play a game of loo. The old fellow was too much for the travelling gentleman, and bled him $50 in short metre.

"Now," says the blackleg, "I'll bet you 50 against the 50 you have just won, that I can turn up a Jack the first thing."

"Never mind," says the pilot, "let's have a game at old sledge. You can easily get your change back at that."

But so far from this, in a few hands the gambler was minus $50 more; when he offered to bet a hundred dollars he could turn up Jack.

"Very well, go ahead."

Over went—*the whole pack.*

"Wall," said the gambler, "I reckon there's a Jack up."

"Not's you knows on," said the pilot, "for while we were at old sledge, *I stole out all the Jacks.*"

The blackleg had run against a snag, and he wasn't insured!

EXPORTS OF BRITISH MACHINERY.—The declared value of the British machinery and mill work exported in 1844, from a Parliamentary return, was £776,256. The following are the principal countries to which it was exported:—Russia, £158,137, Italy, £98,342; Germany, £92,851; France, £84,315; East Indies, £62,080; Spain, £54,681; Holland, £34,117; £27,787; British West Indies, £24,102; United States, £32,223; Brazil, £19,934; Marautius, £14,937.

COST OF HEATHENISM.—In Benares, India, there are 5000 places of heathen worship; and there are supposed to be 50,000 brahmins in that single city. One individual has presented $1,200,000 to the different shrines, simultaneously, for the support of heathenism. A missionary saw the money carried through the streets: there were between thirty and forty cart loads!

DIAMONDS IN NORTH CAROLINA.—The Wilmington Chronicle says,—"At a late meeting of American geologists in New Haven, Conn,, Professor Shephard expressed the opinion that both diamonds and platina will be found in abundance in the gold region of this State, and also in South Carolina and Georgia. This opinion he predicates upon the fact that elastic sandstone has been discovered in some of the western counties of this State, Burke and Buncombe, and in the other States named, and where this is found, it is a geological indication of the presence of the diamonds or platina. In Hall county, Georgia, one perfect diamond has been found in one of the gold washing deposits, worth thirty-five dollars, and another was broken in pieces by the workmen."

NINETY YEARS AGO.—The following advertisement is copied from the Philadelphia Gazette published in Philadelphia, July 11, 1755.

General Post-Office,
Philadelphia, February 14, 1755.

It having been found very inconvenient to persons concerned in trade, that the mail from "Philadelphia to New England" sets out but once a fortnight during the winter season, this is to give notice, that the New England mail will henceforth go once a week, the year round; whereby correspondence may be carried on, and answers obtained to letters, between Philadelphia and Boston in *three* weeks, which used in the winter to require *six* weeks.

By command of the Postmaster General,
WILLIAM FRANKLIN. Comptroller.

SOCIAL EXAMINATION.—*There go a gentleman and a scholar.* "Pass, *There.*" "*There,* is a noun of multitude, first person singular, nomerative case to go." "Very well: *go,*—the next. [Tom makes for the door.] Come back! Pass go." "I was trying to go past." "Next." "*Go,* is an insensible, rig'lar verb, finity mood, perfect tense; first person, go it; second person, go ahead; third person, no go; made, in the third person, to agree with Daddy's old gray mare understood." "Very well, next, pass *gentleman.*" "*Gentleman* are an abstract noun, substantive mood, neuter gender, but in opposition to scholar." "Right: *scholar,* the next." "*Scholar,* is an obstinate pronominal adjective, ridiculous mood, imperfect tense, first person, because I am speaking, and governed by a." "Give me the rule." "Scholars are governed by indefinite articles." "Very good: nine merit marks apiece."

TO MAKE BLACKING.—Put one gallon of vinegar into a stone jug; add one pound of ivory black, well pulverized: half a pound of loaf sugar; half an ounce of oil of vitriol, and one ounce of sweet oil; incorporate the whole by stirring. This is a blacking of very great repute.

MORMON TEMPLE.—The Mormon Temple, it is said, is still in progress of erection. It is about one-fourth the size of Solomon's Temple, and can accommodate 12,000 persons, being 4,000 on each floor. Three hundred and fifty men are zealously at work upon the building, which it is supposed will be finished in a year and a half, probably at a cost of half a million of dollars.

HOW TO GET RID OF TROUBLESOME ACQUAINTANCES.—Give out the report that you have met with reverses of fortune, and it is astonishing how your "fair weather friends" will mind their own business.

## CATALOGUE OF AMERICAN PATENTS ISSUED IN SEPTEMBER, 1845.

[Having received the list for Sept., we prefer to insert it in this place, deferring those of previous months for future numbers.]

To Anthony Cooley, of Kalamazoo, Mich., for improvement in winnowing machines: patented 2d Sept., 1845.

To Almond Harrison, of Blissfield, Mich., for improvement in cultivators—2d September, 1845.

To Andrew Ralston, of West Middletown, Pa., for improvement in cultivators—2d Sept., 1845.

To William Richardson, of Philadelphia, Pa., for improvement in coal-breakers—2d Sep.t1845.

To James Elliott, of Newark, N. J., for improvement in exercising-machines—2d September, 1845.

To Daniel Harrington. of Philadelphia, Pa., for improvement in pen-holders—2d Sept., 1845.

To George Oates, of Charleston, S. C., for improvement in door-locks—2d Sept., 1845.

To Daniel Harrington, of Philadelphia, Pa., for improvement in galvanic instruments—2d September, 1845.,

To Phineas Bennet, of New York, for improvement in the mode of discharging and raising wrecks—2d Sept., 1845.

To James Mongomery, of Memphis, Tenn., for improvement in safety apparatus for steam-boilers:—2d Sept., 1845.

To Benjamin Brundred, of Paterson, N. J., for provement in throstle-spinner—9th Sept. 1845.

To Hiram H. Scoville and Eunice Avery, administratrix of Wm. Avery, deceased, of Des Plaines, Ill., for improvement in machinery for drilling rocks, (assigned to Hiram H. Scoville)—9th Sept. 1845.

To John Ericsson, of New York, for improvement in the screw propeller—9th Sept., 1845.

To William Wright, of Rochester, New York, for improvements in the rotary engine—9th September 1845.

To William Sanford, of Cambridge, Mass., for improvement in brick presses—9th Sept., 1845.

To C. J. Woolson, of Cleveland, Ohio, for improvement in cooking-stoves—9th Sept. 1845.

To Joseph Trump, of Connellville, Pa, for improvement in hill-side ploughs—9th Sept., 1845.

So Henry A. Roe, of Erie, Pa., for improvement in machinery for bending sheet-iron—11th Sept., 1845.

To Benjamin T. Roney. of Attleborough, Pa., for improvement in cooking-stoves—11th September, 1845.

To Louis Antoine Ritterbandt, of London, England, for improvement in removing incrustation of steam-boilers—11th Sept. 1845.

To George Parker, of Corinna, Maine, for improvement in wind-mills—11th Sept. 1845.

To James Wilson, of New York, for improvement in parlor-grates—13th Sept., 1845.

To Frederick Pfanner, of Providence, R. I., for improvement in preparation of dye-stuff from spent madder—13th Sept. 1845.

To Leonard Phleger, of Wilmington, Del., for improvement in propellers for vessels—13th September. 1845.

To Thomas S. Speakman and Richard A. Stratton, of Philadelphia, Pa., for improvement in apparatus for boring rocks or earth—17th Sept., 1845.

To Charles Bennett, of Pepperell, Mass., for improvement in mortising machines—17th Sept., 1845.

To Edwin Keith, of Bridgewater, Mass., for improvement in brushes for cotton-gins—19th September, 1845.

To Peter J. Clute, of Schenectady, New York, for improvement in stoves—19th September, 1845.

To H. L. B. Lewis, of New York, for improvement in portable hot-air furnaces—19th Sept. 1845.

To Frederick E. Sickels, of New York, for improvement in the mode of connecting cranks by crank-pins—19th Sept., 1845.

To Aaron B. Carpenter, of New York, for improved mode of hanging doors and windows—19th Sept., 1845.

To Frederick E. Sickels, of New York, for improvement in the mode of tripping cut-off valves:—19th Sept., 1845.

To Frederick E. Sickels, of New York, for improvement in the mode of connecting the steam cylinder with the steam chests—19th Sept., 1845.

To Nelson Bartlett, of Belvidere, Ill., for improvement in portable baths—33d Sept., 1845.

To William Hovey, of Worcester, Mass., for improvement in machinery for grinding tools—23d Sept., 1845.

To William C. Grimes, of Baltimore, Md., for improvement in spark-arresters—23d Sept., 1845.

To Samuel Cheney, of Cleveland, Ohio, for improvement in machinery for cutting laths—27th Sept., 1845.

To H. L. B. Lewis, of New York, for improvement in caloric dining-tables—27th Sept., 1845.

To Edward Maynard, of Washington city, D.C., for improvements in percussion-primer, and gun-locks therefor—22d Sept., 1845; ante-patented 22d March, 1845.

To G. Utley, of Chapel Hill, N. C., for improvement in straw-cutters—27th Sept. 1845.

To Charles Horst, of New Orleans, La., for improvement in the manner of adjusting the pitch of reeds for Æolian attachments, &c.—27th September, 1845.

To Frederick W. Harris, of Lancaster, Mass., for improvement in machinery for sawing irregular shapes—27th Sept., 1845.

To Martin and Niklaus Schneider, of Orleans, La., for improvement in tuning reeds of accordions, &c.—27th Sept., 1845.

To William Duff, of Baltimore, Md., for improvement in spark-arresters—30th Sept., 1845.

To Ferdinand Woodward, of Upper Freehold, N. J., for improvement in reaping machines—30th Sept., 1845.

To William Baxter, of Paterson, N. J., for improvement in the mode of driving bobbins in spinners—30th Sept, 1845.

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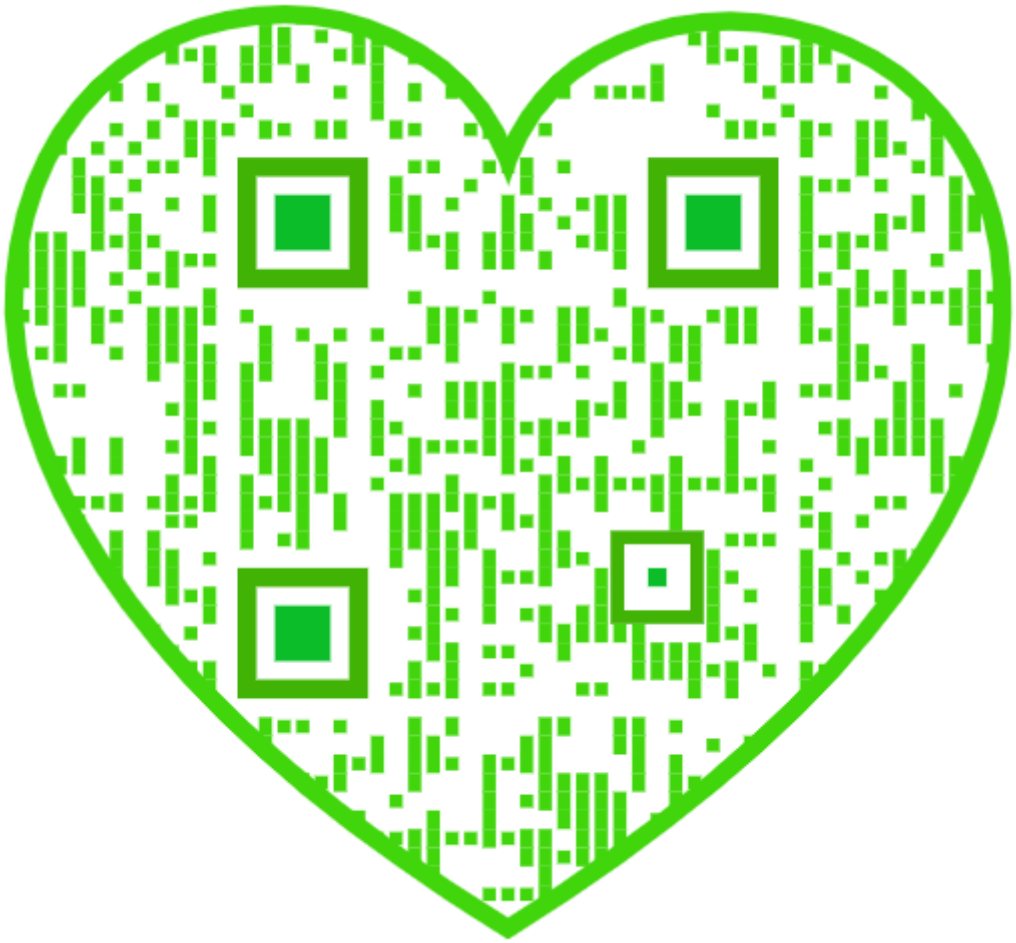
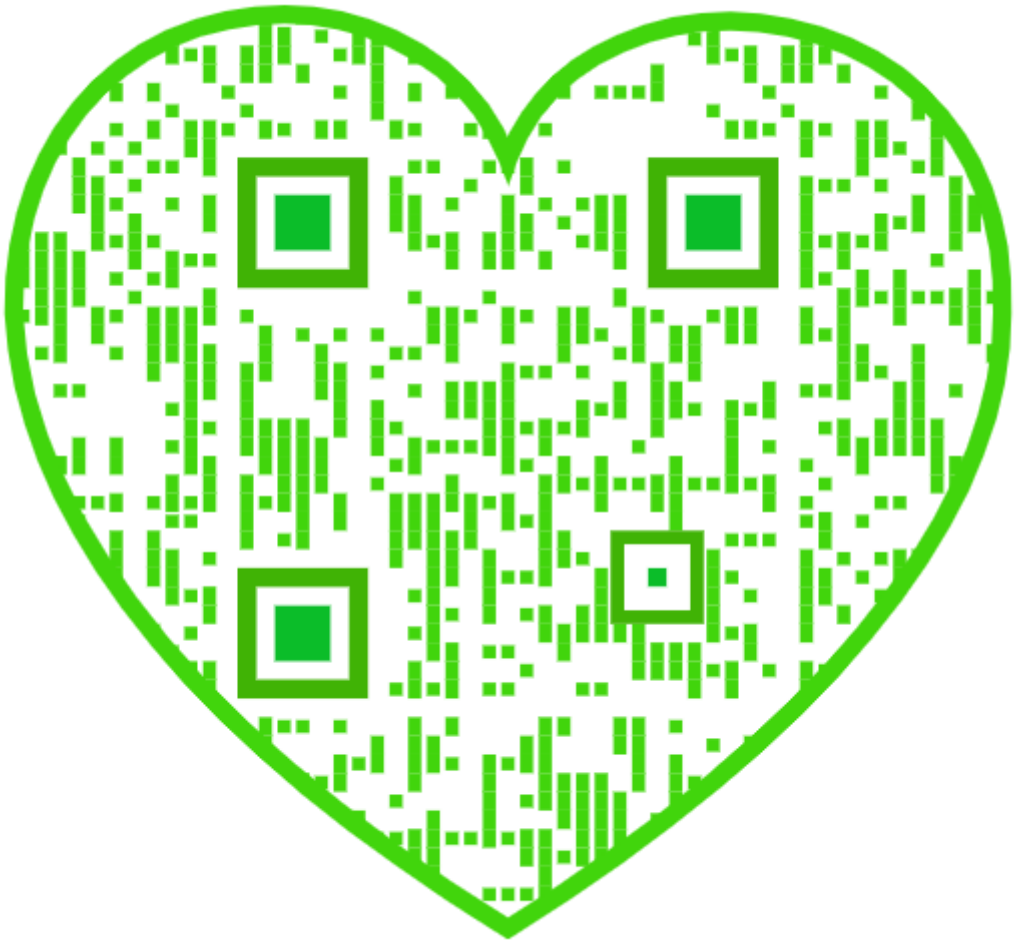




SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, OCT. 9.

SECURE THE FIRST NUMBERS.—We have a few copies of our first number remaining, and those who intend to become subscribers will do well to secure them while they may. There will soon be a pressing demand for them, when too late. We are authorized to offer fifty cents for the first number of the New York Mechanic.

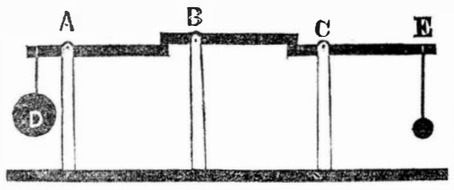
OUR AGENTS.—We expect every subscriber to act as agent, so far as to use his influence in favor of extending the circulation of this paper; but being aware that subscribers are desirous of preserving their papers, in good order, we shall occasionally send duplicates, that those who receive them may circulate or lend them to their scientific neighbors.

DELINQUENTS.—We shall publish, in our next number, the names of those subscribers from whom we have received no remittance, that the delinquency of postmasters, who have neglected to notify us of money paid to them for us, may be detected.

OUR NEXT NUMBER.—Having intimated that our plan of Aerial Navigation, and the Steam Carriage, are both to derive an important advantage from an Improved Boiler, we shall give a descriptian thereof with an engraving. A series on Galvanism, &c., wil be also commenced.

## First Principles of Mechanics.

(Continued from No. 7.)



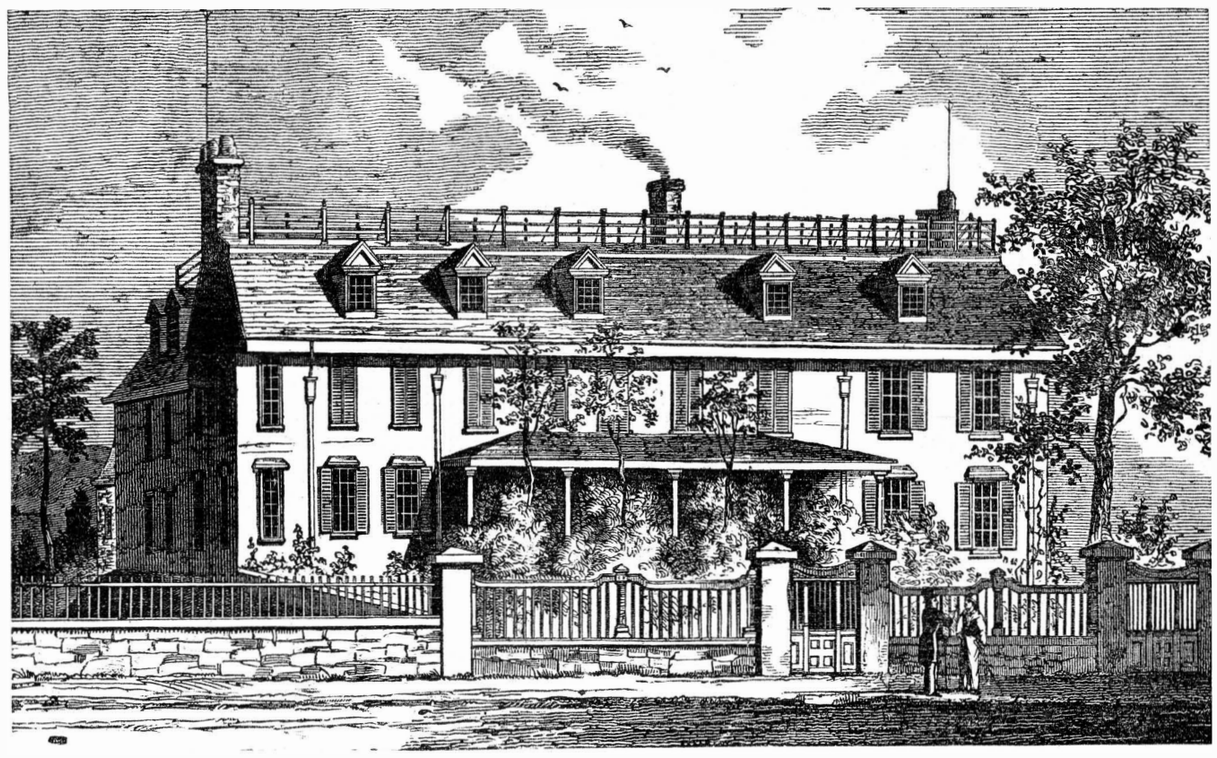

We hope our readers will not be impatient with the subject of the lever, if we shall notice one or two other modifications thereof, before proceeding to the next, and in some respects more interesting branch of the mechanical science. We have shown in a former number, that the influence of any weight, force or power, applied to a lever, is in direct proportion to its distance from the fulcrum;—that 10 lb. weight placed 5 inches from the fulcrum, is equal to 5 lb. weight placed 10 inches from the fulcrum: consequently, in order to ascertain what amount of weight may be required at a given distance from the fulcrum, or what distance from the fulcrum may be required for a given weight to balance a given weight at a given distance, it is only required to multiply together the first weight and distance given, and divide the product by the last given weight *or* distance. Thus, if 10 lb weight be placed 8 inches from the fulcrum, it will require 5 lb. at the distance of 16 inches, or 16 lb. at the distance of 5 inches to balance it: for 10 multiplied by 8 being equal to 16 multiplied by 5, it is plain that the same rule will apply in either case. We shall now proceed to introduce a compound lever, an illustration of which is placed at the head of this article. In this instance, one lever is made to communicate its power to another, and that to a third, &c. Suppose A, B, C, to be the fulcrums and that the the length of each lever is so divided, that one part has three times the length of the other: then, if the weight of the ball D, be 27 lb. the force applied by the long arm thereof to the lever B, will be 9 lb; and the force applied by that to C, will be 3 lb.; consequently 1 lb. suspended at E, balances the 27 lb. ball D. But, be it remembered, that if either ball preponderates so as to produce motion, the velocity of E will be 27 times greater than that of D. The idea must not be entertained, that the fulcrum necessarily comes between the recipient and the communicator of force, nor in a line with them. Radii drawn from the fulcrum or axis, to the points of receiving and communicating the force or power, are termed the two arms of the lever: and if the position of one of these arms is at right angles with the other, no difference is thereby produced in the effect. In calculating the forces of compound levers, it is customary to work by the rule of three; for in all cases, as is the length of the first arm of the lever, to that of the second arm, so is the force received to the force imparted by the lever. These statements will not be the less interesting to our readers, when we assure them, that, simple as these facts appear, they are not, as far as our observations have extended, known and understood by so many as one man in a hundred, either in this country, or in Europe; and mechanical inventors suffer the want of patronage, more than from any other cause, from the inability of people to distinguish the proper difference between power and force.

[To be continued.]

THE QUARTO FORM.—We have a few subscribers who would prefer the quarto form for this paper on account of a supposed greater convenience of binding. But we can assure them that we duly considered the subject prior to the commencement of the publication; and that in consideration of the inconvenience of reading a quarto paper, without having it first cut and stitched, and the liability of the paper being torn or injured by the turning process, if read in that form,—has induced a preference for the plain folio. We moreover expect to insert some engravings the full breadth of the page, in its present size.

POETRY.—We begin to enjoy the reputation of selecting excellent poetry, and none but what is well worth reading, for its sentiment, humor and ingenious composition. We are choice in selecting, and hope this department will not be passed over by the reader.

# RESIDENCE OF JOHN QUINCY ADAMS.



This Mansion is situated, in Quincy, about eight miles from Boston, Mass., having nothing remarkable in its appearance, save the neatness and good order which pervades everything ahout the premises and immediate vicinity. The reader will not care to learn anything of the age or dimensions of the building, nor of the biography of its illustrious occupant: wherefore we shall merely add a few general remarks on the subject of Republican simplicity. There is nothing more ridiculous than inconsistency; and no greater inconsistency than for an officer of a Republican Government,—a mere servant of the people,—to assume the dignity and pomposity of the hereditary nobility of the monarchies of Europe. Mr. Adams has ever been sensibly aware of this, and has advocated the true republican simplicity by both precept and example; and when filling the highest offices, has studiously avoided ostentation. He aimed to maintain the character of a man and a patriotic citizen, and expected to be esteemed and treated as such; and never supposed himself disqualified to fulfil the duties of ordinary sociality, nor to attend to ordinary business in consequence of having filled the higher offices. The hospitable mansion which is honored by his residence, presents no appearance of aristocracy, and is not inaccessible to the poorest people in the neighborhood; and is subject to the particular attention of those only, who have been informed of its being the residence of JOHN QUINCY ADAMS.

## Illustrations of Chemistry.

(Continued from No. 7.)

THE METALS.—There is a distinct class of bodies which in their natural and pure state, have many peculiar properties, and are called metals.—They are the heaviest of all bodies, of close texture, opaque, and brilliant: and many of them are malleable and ductile. They are also remarkable for being conductors of heat and electricity. The metals are all solid, in what may be considered their pure and natural state; but being united with heat, they become fluid, at different temperatures, and one of them—mercury—is fluid in the ordinary temperature of the atmosphere. Several of the metals are combustible, and others are sublimated by an excess of heat, rising in vapor, but without flame, or any appearance of combustion. Most of the metals readily combine with oxygen, when heated in contact with atmospheric air, and this compound is called the *oxyde* of the metal. They are also soluble in acids, and, in this process, they also combine with oxygen, and one or more of the other constituents of the acid, and are thus held in transparent solution; or are, by evaporation, reduced to a chrystalline state, forming what are called metallic salts. It may be here observed, that all oxydes, or metallic salts, are much heavier than the metals which constitute their base. The following table comprises a list of the metals most generally known, with their relative weight, as compared with that of water, which is allowed to weigh 1,000 ozs. per cubic foot.

| | |
|---|---|
| Platina, | 22.000 |
| Gold, | 19.258 |
| Mercury, | 13.568 |
| Lead, | 11.352 |
| Silver, | 10.474 |
| Copper, | 8.788 |
| Brass, | 8.395 |
| Wrought Iron, | 7.788 |
| Cast Iron, | 7.207 |
| Zinc, | 7.190 |
| Tin, | 7.091 |
| Antimony, | 6.700 |

The peculiar properties of the metals will be severally considered in a future number.

EXPERIMENTS.—Melt any quantity of lead, in the open air, and keep it melted until it becomes *red* lead, and it will be found to have increased in weight ten per cent.

Expose a small quantity of mercury to a moderate heat, in contact with atmospheric air, and it will slowly combine with oxygen and become red oxyde; but by an increase of heat, the oxygen will be driven off, and the metal will be restored.

Place together on a shovel, a little sulphur and mercury, and make the whole red hot over a strong fire, and the beautiful paint, called vermillion, will be produced.

Melt on a shovel, or in a ladle, a small quantity of zinc, and when it becomes red hot, it will burn with a full flame, and become apparently consumed: but the smoke will descend in flakes of beautiful fine oxyde of zinc.

To a little diluted sulphuric acid, add as many filings of copper as the acid will dissolve; afterwards evaporate the solution by a moderate heat, and beautiful blue crystals of sulphate of copper will be formed.

Into a mixture of nitric and muriatic acid, put a few leaves of gold; they will almost instantly disappear, showing a perfect specimen of metallic solution.

(To be continued.)

THE N. Y. SUN.—This paper needs no puff; but we feel it to be a simple act of justice to the public, and rendered expedient by the present extraordinary competition of the newspaper press, to say that we obtain more useful intelligence from the Sun than from any other paper—not to say all others—in New York.

P. S. Since the foregoing was in type we have observed in the 'Sun' a complimentary notice of this paper. We anticipated nothing of the kind, but shall not suppress the above remarks on account of it, nevertheless.

## The Art of Painting.

(Continued from No. 7.)

SIGN PAINTING.—When a sign is to be lettered with gold or gilt letters, the face of the board, after being painted and smoothed, is to be varnished with copal varnish, before the letters are formed. The letters are drawn and painted with a composition called by painters "Gold sizing," and which is prepared as follows:—Grind equal quantities of white lead and litharge, in a mixture of equal quantities of old fat linseed oil, copal varnish and spirits of turpentine. To this compound may be added a very minute quantity of chrome yellow, sufficient to bring the sizing nearly to a gold color. The oil for this purpose, may be generally procured from the top of oil-paint that has been long standing in an open vessel. With this sizing, the letters, ruling and ornaments are formed, the sizing being applied with brushes or pencils, the same as common paint. When this sizing becomes hard, but yet not so perfectly dry but that a slight stickiness remains, the sized parts are covered with gold leaf, which is gently pressed down with a puff, or ball of raw cotton. The leaves of gold for this purpose, may be first laid on a piece of soft buff leather or sheepskin, and may be cut into convenient sized pieces, with a smooth edged knife. These pieces may then be conveyed to the work, and each piece placed where it is wanted, by means of a little block of wood, covered with fine flannel. The most convenient shape for this block is that of a segment, about three inches long and three-fourths of an inch thick; the strip of flannel being drawn over the straight side and the two ends thereof, tacked upon the curved part. This flannel, being occasionally rubbed on the hand, or on another piece of cloth, instantly acquires an electrical attractive property, sufficient to raise several pieces of the leaf in succession, and carry them to the sized work:—the block being slightly pressed on the leaf, the latter will adhere to the flannel, and may be carried to, and placed on, such part of the sizing, as its size and form will best fit. In this manner, the sized letters, or figures, are completely covered with the gold leaf, which will adhere to the sizing: the whole may then be rubbed over with cotton, and all the superfluous leaf will be brushed off, leaving the letters or figures entire. No varnish must be put on over the gold leaf, as it would injure the appearance of it, without contributing to its durability; but gilt letters, or ornaments on carriages, sleighs or chairs, on which they are exposed to wear, must necessarily be varnished in order to preserve them. Silver or brass leaf may be managed in the same manner, but neither of them will retain its lustre, unless it is protected by a coat of varnish. In the formation of letters, in sign-painting, very little instruction can be given. The shape and proportion of the letter depends on the taste and skill of the artist: but in general, the perpendicular section of capitals are made to swell at the top and bottom, more than those in types, and the horizontal lines and crosses are heavier. In calculating the size of letters—Roman or antique capitals,—which may be placed in a line, divide the length of the board by the number of letters in the line, and take three-quarters of the quotient for the height, or vertical length of the letters. When a V or W succeeds an A or L, the two letters may stand closer than in type work: and, on the other hand, when an I succeeds H, or is succeeded by L, the space between should be greater than in types. By the observance of these and similar rules, the proportion and balance of the line of letters may be made far superior to those of printed words.

(To be continued.)

ARTESIAN WELL IN BOSTON.—A scientific gentleman in Boston offers to sink an artesian well to the depth of 1700 feet, for the sum of $30,000. It is estimated that more than a million of gallons per day, of the best water, may be thus obtained, and carried by its own force to the highest part of the city.

## New Inventions.

THE CIRCUMFERENTIAL PROTRACTOR.—This is the name of a new instrument, recently invented and patented by Mr. G. D. Varney, of Newbury, Mass. It is an improvement on the Surveying Compass, and takes the vertical as well as the horizontal angles: and by means of a Vernier Plate and Telescope revolving with it, a piece of ground may be surveyed without using the needle except at the first point. This instrument is said to be so simple in its operation, that any person may take an accurate survey of a plot of ground, and make a plan of it, without the assistance of a surveyor or draftsman.

GRAND COMBINATION OF MACHINERY.—A gentleman from Louisiana reports that a gentleman named Pierce has invented, and put in operation, a set of machinery, which gins, cards, and spins cotton, all at one operation. These machines are likely to come into general use in the cotton growing states.

SEWING MACHINE.—An extraordinary machine has been put in operation in Amplepluis, France, which is expected to affect materially the tailoring business. It will sew 200 stiches per minute, guiding the needle along all the irregularities of the work and finish every seam in good style.

IMPROVEMENT IN RAILROAD CARS.—Several new passenger cars, from the manufactory of Davenport & Bridges, Cambridge Port, have been recently put to the track on the Eastern Railroad, between Boston and Portland; and which, in addition to the improved springs, are furnished with single seats, each of which is an arm-chair, which is made to turn occasionally on a pivot in the centre. Each car will seat about 70 persons.

HOUSE'S MAGNETIC PRINTING TELEGRAPH.—We have seen several *communicated* notices of this invention, but nothing descriptive of its construction or utility. The confidence of an inventor in the excellence of his invention, is best manifested by a publication of a full description thereof.

THE MAGNETIC TELEGRAPH.—We are informed that the line of telegraph from this city to the eastern extremity of Long Island, is nearly ready for operation.

The workmen are engaged in putting up the wires between New York and Baltimore. Mr. Kendall is making arrangements for extending the wires through the streets of Baltimore; and Mr. O'Reilly is engaged on the line from Philadelphia to Harrisburg. It is reported that this line will be extended to the Mississippi without delay.

The line between this city and Boston, by way of Hartford, will be put in operation in the course of next month.

SOUTHERN LIBERALITY.—The President of the Central Railroad, Ga., on the occasion of putting a new car on the road recently, gave a general invitation to the citizens of Macon, to a pleasure excursion to Gordon. Should the superintendents of some of the northern roads display a little more occasional generosity, their business patronage would, in our opinion, suffer no disadvantage thereby.

AN OREGONIAN.—The Sheriff of Oregon writes that he has 70 head of cattle, 15 horses and 200 hogs; and expects a crop of 3000 bushels of wheat the present year. His farm is only eight miles from ship navigation. He has lived in that country fifteen years.

CARAVANS TO OREGON.—One of the companies which are on the march to Oregon, has forty-six waggons, and fifteen hundred milch-cows and oxen. There are several similar parties on the route, having plenty of beef, milk and butter by the way, but no liquor is carried by any of the parties.

## VARIETY

The Springfield Post says that a certain man who fell into a brook in that town, "would have been drowned if he had not been so full of liquor that the water could not get into him."

It has been remarked that lightning seldom injures a brick house. It is obvious that the iron contained in the brick, and which constitutes the red colour, would naturally conduct the electricity to the ground.

In several towns in Barnstable Co., Mass., there are neither alms-houses nor paupers; but plenty of industry and education, and every family is in comfortable circumstances.

A monument of *lead* is to be erected in honor of Caleb Cushing. We should deem that material more appropriate for the monuments of certain modern editors.

Seventeen steam-frigates, of 30 guns each, are in process of building in England, to be substituted in place of several heavy ships of the line, which are to be laid up.

A ship-wrecked sailor being asked by a lady, how he felt when washed overboard, and the waves were dashing over him, replied, "wet, madam, *very wet*."

Under the head of "Life in Town," the Boston Mail gives an account of an Irishman falling into a well 56 feet deep, and narrowly escaping death.

A newspaper is about to be established in the ancient city of Jerusalem:—an improvement which Solomon never thought of.

In the Sandwich Islands, the same word is used to designate "Popery" and "brandy." *Prani* is the word used for both.

There is a silver mine in Mexico which has been excavated about eight miles in length, and is over 1600 feet in depth.

An extensive rope-making establishment in Plymouth, Mass., has manufactured 25 *gangs* of rigging this year, all of American hemp.

The Mormons propose removing next spring, to California. Two thousand or more will proceed in a body from Missouri.

The juice of the sugar beet, being expressed in the same manner that cider is from apples, will become excellent vinegar in three weeks.

It is estimated that the power of steam in Great Britain, is equal to the labor ef 170,000,000 of men, in a population of only 28,000,000.

A cotemporary speaks of sleeping on a fence rail, with two yards of tape for a covering. Some people's accommodations are rather short, truly.

It is not true that the Western editors use guano to increase the growth of their subscription lists, for the purpose of obtaining the post-office printing.

Five Bibles per minute, for two hours per day, on an average for the year past, have been sent out by the British and Foreign Bible Society.

One hundred and three persons have connected themselves with the Methodist church at Tuscaloosa, Ala., during a recent revival.

An old pilot on the Arkansas, says he has waded that river three times, from "the Post," to Fort Gibson, a distance of 500 miles.

A gentleman at the South has discovered a process by which he can render sugar and molasses entirely transparent and colorless.

5,555 tons of coal were recently transported over the Reading Railroad in a single day. The number of cars employed was 1,244.

Cincinnati is now supplied with pine lumber from Canada, by way of the lakes and the recently opened canal. This will prove very advantageous.

It is estimated that the quantity of tobacco consumed annually in Great Britain, if worked into *pig-tail*, would reach three times round the world.

Ripe strawberries, the second growth of the season, were gathered in a garden near Boston on Monday of last week.

Proposals have been made to the Postmaster General for transporting the mail once a month, overland to Oregon, at $200 per trip.

A large portion of the burnt district, in Pittsburgh, has been already rebuilt, and in a style of elegance far superior to its former appearance.

A destructive tornado passed over a part of St. Lawrence County, on the 1st inst., demolishing 16 buildings, and devastating 7,000 acres of woodland.

The Montrose Iron Company at Danville, Pa., are furnishing iron for several railroads at $70 per ton. This iron is superior to the imported article.

It is reported that in Springfield, Ill., in a population of 4000, there are only twelve marriageable females, eleven of whom are already engaged.

Loungers are admonished to seek each other's company, but not torment industrious people with their loafing visits.

The city of Louisville, Ky., contains a population of 37,218; having increased upwards of 16,000 within the last five years.

The receipts on the Long Island Railroad, for September, were $37,148; being about $7,000 more than for corresponding time last year.

About two millions of the Chinese, live in floating houses in the vicinities of the large cities; water being cheaper than land for building lots.

The population of Russia, according to the last census, is 62,500,000: yet there is evidently less wealth and strength, than in the United States,

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## The Working Man's Prospect.

TUNE—"*The Morning Light is Breaking.*"

See! see! the day is dawning,
Bright, cloudless, and serene;
A brighter, fairer morning
Than mortals yet have seen:
A day of moral glory,
A day without a storm,
When all shall tell the story
Of Freedom and Reform.

When av'rice and oppression
Shall stay their grasping hand,
And warlike desolation
Shall mar no more the land:
When tales of good defeated,
The triumphing of crime,
Shall only be repeated
As scenes of olden time.

Ye Working-men of power,
Press onward to the fight;
Say, shall your spirits cower,
When pleading for the right?
Be firm and valiant-hearted,
Like warriors true and brave,
And strive, with zeal undaunted,
Your Liberties to save.

## The Poor Man.

BY EDWARD GILBERT.

Toil by day, and toil by night,
Losing flesh, and losing sight;
Scarcely time to think or weep,
Toiling hours God meant for sleep—
All to gain a crust of bread,
And a shelter for my head.

Brothers! for the wealthy man,
Work and drudge, do all we can;
Slaves we are, by blood and birth,
Born to till, not own the earth—
Money is the cunning witch,
We are poor, and HE is rich:

Wheel the barrow, push the spade,
Let the rich man's hours be made!
Pile the brick, and raise the stone,
Stifle grief and every groan;
Though his roof should touch the sky,
Every crack shall hold a sigh!

Dare not whisper discontent,
Lest that whisper ye repent;
For the rich man cannot feel
Poor men's wants—his heart is steel!
Always dwelling on his gold,
Other thoughts he cannot hold!

Where's the hope of better days?
Would that we the veil could raise,
Look beyond this misty gloom,
View our travel to the tomb,
Where, our fortune all in store,
We shall toil and weep no more!

## Search the Scriptures.

John v. 39.

Search the Scriptures: seek and ponder,
Mighty thoughts in every line;
When the feet of childhood wander,
Toward the heavenly page incline.

Search the Scriptures—daily, nightly—
Truth that on life's threshold stands;
Like a beacon, burning brightly,
They will warn of treacherous sands.

Search the Scriptures—pray believing,
Aged men, with locks of snow;
Trust in God; go on receiving
Joy the world can never know.

Search the Scriptures: Jesus taught them;
Way, and Truth, and Life are they;
Saints in heaven long humbly sought them—
Saviour teach us to obey.

THE HENDRIK HUDSON.—A new and splendid mammoth steamer, by this name, has been recently added to the "People's Line," on the North River. This vessel is 341 feet in length, 35 feet beam and 10 feet hold. Her breadth of deck is about 60 feet. Her spacious cabins and saloons are finished and furnished in superb style, her officers first rate, and her arrangements altogether, are such as to ensure to passengers more comfort than they could enjoy at the best hotel, or even at home.

THE FIRST BOAT.—The first steamboat that ever appeared on the Kennebeck, was built by a lawyer of Lincoln county, Me., in 1815. The editor of the Gospel Banner says he saw her at Hallowell, "when all the country turned out to see her *towed up the river by oxen.*"

ENIGMATICAL POETRY.—Any person may read that on the first page of our last number, by first writing all the letters uniformly, without regard to punctuation or division, and than pointing off the lines into regular words. The prominent idea conveyed in the poetry, is not bad.

TYPE ERRORS.—The steamboat Beaver, while descending the Upper Mississippi with a cargo of cats was struck by a large rat, which forced it upon one of the cars, where it remained several hours.

*Correction.*—For *cats* read *oats*; for *rat* read *raft*; and for *cars* read *bars*.

QUICKER YET.—The Boston train came through on Wednesday of last week, via Long Island, in *seven hours and thirty-five minutes.* This is the quickest trip ever made between Boston and N. Y.

## Curious Arts.

Thousands have admired the perfection of the figures produced by the looking glass and picture-frame manufacturers, on the corners and other parts of their elegant gilt frames; but the art has been kept so close a secret among the craft, that not even the apprentices of the trade have been allowed to know the secret of this peculiar art, till near the expiration of their term of apprenticeship. We shall here describe the whole process as practiced by the best burnish-gilders at the present time. The composition becomes nearly as hard as stone, and the art will furnish an agreeable amusement to many, who are not connected with that branch of business.

PROCESS.—Dissolve one pound of glue in one gallon of water; in another kettle boil together two pounds of rosin, one gill of Venice turpentine, and one pint of linseed oil. Mix all together in one kettle, and continue the boiling, stirring them together till the water has evaporated from the other ingredients: then add finely pulverized whiting till the mass is brought to the consistence of soft putty. This composition will be hard when cold; but being warmed it may be moulded to any shape by curved stamps or prints; and the moulded figures will soon become dry and hard, and will retain their shape and form more permanently than carvings of wood. They may be fastened with common glue on either plain surfaces or mouldings.

TO MAKE LETTERS OR FLOWERS OF BLUE ON POLISHED STEEL.—Hold the steel over a charcoal fire till it becomes blue—let it cool. Then with equal parts of rosin and beeswax, melted together, colored a little with lampblack, and diluted with spirits of turpentine so as to work freely with a camel hair pencil,—draw any letters or figures on the steel while it is a little warm. When the steel has become cold, wash it over with muriatic acid, diluted with two parts of water, to one of acid; thus take off the blue color, and then wash it with clear water. Afterward the varnish, being warmed a little, may be readily washed off with spirits of turpentine, and the letters or flowers will remain blue. If letters are formed on polished steel with this varnish, and the body of the metal be all covered with it, except a small place round the letter, and then, bathed with muriatic acid, the space round the letters will become a dull iron color, while the letters and body of the steel will retain their polished surface and brilliancy.

CONDENSATION OF STEAM.—Steam contains much more heat or caloric, than is indicated by its temperature. As much heat is required to convert one gallon of water to steam, from the *boiling point*, as would raise six gallons from 60 degrees to the boiling point: of course, it must require six gallons of water at the ordinary temperature, to condense a sufficient quantity of steam to produce one gallon of water. In this calculation, however, the steam to be condensed, is supposed to have been nearly free from pressure, and at a temperature but little above the boiling point of water: but if the steam is liberated from under a high pressure, a less quantity of water will be required to produce a gallon by condensation: because steam when under high pressure contains more water in proportion to caloric, than when the pressure is less. There may be considerable economy, especially where water is scarce, in subjecting the water provided for a steam engine boiler, to the action of the liberated steam; thus increasing the quantity of water by condensation, and at the same time affording a saving of fuel by raising the temperature of the water to the boiling point.

YANKEE CLOCKS IN ENGLAND.—A young man from Connecticut writes from Cambridge, Eng., that while at breakfast, the clock struck in tones so peculiarly familiar to him, that he turned to look at it, and beheld on its face the well known mark, "Bristol, Conn. U. S. A."

## Additional Items.

Four-fifths of the whole population in Russia are serfs, (not slaves,) and are dependent on the nobility for employment and support. They are, in general, at liberty to go where they please, if they can find the means.

In the calico manufacturing establishments in France and England, artists of merit are employed, at high salaries, to contrive or design the figures which are printed.

Aqua ammonia (a solution of the common hartshorn in water,) will afford immediate relief from the effects of the sting of bees, or musketoe bites; and sometimes cures the bites of serpents.

Cotton is abundant at Calicut, in the East Indies, and the price of labour is only five cents a day; yet the inhabitants are supplied with cotton goods from England.

"*Charge my death to Mary,*" was found written on a paper in the pocket of a young man, who deliberately shot himself in front of a house in Newark, N. J., last week.

We are gratified with the fact that our friend D. C. Colesworthy has become quite popular as an author and poet. He is not an idle poet, but a working-man.

The steamer Oregon made the trip to Albany on Tuesday evening of last week, in 7 1-2 hours; being the quickest trip on record.

A carrier-pigeon was recently found near London, bearing a note purporting to have been sent from Ichaboe, an island 2,000 miles distant.

The quantity of produce arriving at Albany by the canal, is computed to average 12,000 bbls. flour, 30 tons butter, and 25,000 lbs. of wool daily.

The surface of Lake Huron is 684 feet above the level of the ocean, and its bottom in some parts is 1,100 feet below the same level.

The English tax upon bricks produces $1,200,000 per annum,—on paper $3,168,000, and on soap $1,020,000; aggregate, $5,388,000 per annum.

Thirty thousands persons are said to have emigrated from Vermont and this state to Wisconsin within the present year.

## Railroad Intelligence.

There are now 77 railways, completed or in progress, in England, with an authorised capital of $400,000,000. There are 196 others projected, involving a capital of nearly $800,000,000. Should all these railroads be constructed according to the plans, there will have been $1,840,000,000 invested in railroads and railway property in Great Britain alone.

On the Harlem Railroad more than 1000 men are now employed, between the City Hall and Somers. This road will soon be completed to the Housatonic Road, so that the cars may run from the City Hall to Albany.

Proposals have been issued for grading the Northern Railroad from Concord, N. H., to Lebanon, by the way of Franklin village.

The whole subscription to the stock of the Providence and Worcester Railroad has been taken up. $100,000 was subscribed in New York. The work will be commenced at once.

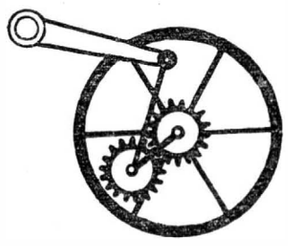
A grand project has been introduced, and arrangements are in progress for the construction of a railroad from the Mississippi river to Oregon. A part of the route has been recently explored by the projector, Mr. A. Whiting, and there appears to be a strong probability that the enterprise will be eventually carried through.

## New Chinese Characters.

A friend of ours, who is also an ingenius artist, being required to engrave a few Chinese characters for labels for a sham Chinese manufacture, after imitating several of the real characters, designed and added the following, which passed very current among the rest.

We may improve this occasion to add a remark on the facility of picturesque representations by means of even the most simple and apparently careless outlines. It was remarked of a celebrated landscape painter, who excelled in the easy representation of trees and foliage, that wherever he put his brush, a tree would grow. But his genius did not stop here; for it might be frequently observed, by a close examination of his trees, rocks, and shores, that there was a variety of formations and representations of the human features, birds and animals of various kinds, without any apparent design, but as it were by mere chance in the shaping and branching of trees, bushes, and herbage, and the seams and shadows of rocks. There are some people who, when ever they attempt to illustrate a descriptive conversation by a pencil, will leave the hearer in more perfect darkness on the subject, than if no illustration had been attempted. Others, again, even savages and children, with a piece of chalk or charcoal, will readily convey intelligence by slight, off-hand sketches, which they could not do by any amount of verbal description. In our opinion, the arts of designing and sketching, should be introduced in our public schools as among the primary branches of education.

## Mechanical Movement.



This arrangement is commonly called the sun and planet wheels, and was first invented by James Watt. Two spur wheels are held in geer by a strap or connecting rod from their respective centres; the one being fast on a shaft, and the other fast to the connecting rod which proceeds from the beam above, the vibration of which carries round the fly wheel at the same time that the fixed spur wheel on the connecting rod is revolved round the spur wheel into which it geers; thus giving the fly wheel two revolutions to each vibration of the beam. This is an ingenious arrangement, though not very frequently applied.

NEW LINE OF STEAM PACKETS.—A few enterprising citizens of New Orleans are making arrangements to establish a line of steam packets between that city and Kingston, Jamaica. The distance between the two ports is about 1000 miles.

SHOVEL MANUFACTORY.—Nearly one hundred shovels per day are manufactured and finished with handles complete, at the mills of J. Bengen & Son, in Pittsburg, Pa. This establishment has been recently refitted with new machinery, and is said to be the most perfect concern in that city.

NEW WIRE FACTORY.—A wire factory has been put in operation in the village of Harrison Me., by C. Farley, Esq. The capacity of the machinery to draw wires of the first qualities, has been fully tested, and the proprietor is ready to supply orders at short notice.

THE PRAIRIE LOCOMOTIVE.—This invention, of which we gave some description in a late number, has been put in successful operation at Springfield, Ill., and is to run regularly between that town and Alton.

PENNSYLVANIA COAL TRADE.—23,712 tons of coal were last week transported by railroad, and 9,612 tons by canal. The supply this year is expected to exceed the consumption of last year by nearly 400,000 tons.

## The Great Fair.

THE EIGHTEENTH FAIR AT THE AMERICAN INSTITUTE, which is now open at Niblo's Garden, excels in splendor, variety, and tasteful arrangement, anything of the kind hitherto witnessed in this city. The managers have evidently acquired great perfection in the art of arranging to please, and displaying to advantage. We shall not attempt any description of the arrangement and variety in the several halls, galleries, &c., as it would be impossible to convey any correct idea of either the arrangement, variety, or splendor of the exhibition, to those who are not acquainted with the premises. The entries made by contribution of machines, manufactures, specimens of art, &c., amount to upwards of 1300, many of the lots of manufactures consisting of several hundred pieces. The exhibition is enlivened by excellent music, with occasional orations and songs; and we are gratified to observe that the halls are daily thronged with crowds of well pleased visitors; and the probability is, that the fair will continue open for two weeks longer. Of the immense variety, we can only mention a few articles, and those of a class which, to us, are particularly interesting.

*Thayer's Bridge.*—There are several beautiful models of bridges on exhibition, each of which claims peculiar advantages. One in particular, invented and patented by G. W. Thayer, of Springfield, Mass., has a very ingenious and peculiar arrangement of the timbers and iron supports, which, to our mind, presents a greater combination of the strength of materials, than any other plan we have seen.

*Hussey's Reaping Machine.*—There are a great variety of excellent machines exhibited, many of them in full operation by steam power, and well worthy of notice; but one which, from the nature of its application, could not be thus exhibited, but which is evidently superior to any thing of the kind which we have examined, is a machine for reaping grain, by Obed Hussey, of Baltimore, Md. With this machine, a man and boy, with one horse, will cut 16 to 20 acres of grain per day. It is surprising that farmers are so backward in adopting such a labor-saving invention.

*Palmer's Computing Scale.*—This is a revolving table, for solving mathematical problems, by a simple mechanical process. It consists of logarithmetic combination of numbers, arranged on two circles, one of which revolves within the other; so that, by the simple process of moving a circular card, the relation of the figures to each other is changed, so as to solve the most difficult problems. The invention must come into general use, though we have not learned where they may at present be procured.

*Carpenter's Tools.*—Of the almost endless variety of wares, manufactures and utensils, no specimen appeared to us more interesting, than the splendid assortment and rich variety of brilliant and excellent TOOLS exhibited by Henry Rowntree, from his store, No. 60 Chatham street. And we may add the remark, that these tools are sold *cheaper* by Mr. Rowntree, than by any other dealer with whom we are acquainted.

*Hoe's Card Printing Press.*—An excellent little portable press, recently invented and mannfactured by R. M. Hoe, of this city, is exhibited in full operation, by Mr. Wm. Wait. It is easily managed by one man, and will turn out twenty cards or small bills per minute, very neatly printed. This machine excites much interest.

*Colt's Repeating Pistols*, having been brought to great perfection by recent improvement, are exhibited by the present proprietor, Mr. John Phelps, of No. 2 Barclay street.

*Lee & Co.'s Wire Window Shades*, are admired by all who see them. They combine unsurpassed beauty and elegance, with almost indispensable utility. They are exhibited by Lee & Co., from 577 Broadway. We shall notice them again.

*Gurney's Daguereotypes.*—There is a great competition in this branch, and many setts of superb specimens, by different artists, are exhibited; but we feel constrained to say, that a few of the specimens from the rooms of Mr. Gurney, 189 Broadway, approach nearer to *absolute perfection*, than anything of the kind we have seen: it is difficult to realize that they are not *real life.*

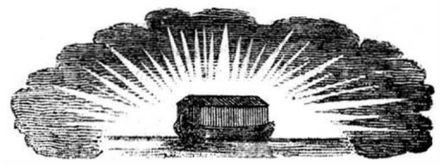
We should notice many other articles, but our limits will not admit of it at present.

ARISTOCRACY.—A young man of this city, who has recently been to Europe for the purpose of taking possession of a fortune bequeathed him by a relation, says it was a source of great amusement to him on his return, to see so many wealthy men extending their hands to him, and expressing great delight at seeing him again, although those same nabobs would have looked down on him with disdain, if he had presumed to speak to them, before he left New York. That is the way of the world.

THE CLOCK BUSINESS.—At Jerome's Factory, in New Haven, Conn., 50,000 clocks are manufactured per annum, requiring, in their construction, 500,000 feet pine lumber; 200,000 feet mahogany and rosewood veneers; 200 tons of iron for weights: 100,000 lbs. of brass; 300 casks of nails; 1,500 boxes of glass, 50 feet per box; 1,500 gallons varnish; 15,000 lbs. wire: 10,000 lbs. glue; 30,000 looking-glass plates.

A RABBIT FAST.—Two rabbits belonging to a gentleman in Alleghany city, were accidentally imprisoned in an unfrequented room, where they remained without food for three weeks before they were discovered. They were supposed to have strayed away, but were last week discovered, not only alive, but in apparent health. It was very unlucky for them that they had never learned to cry.

FORTUNATE ACTORS.—Charles Kean and his lady are reported to be worth $240,000. Forrest has invested $100,000. Macready cleared $50,000 during his recent visit to the United States; and the dancers—Celeste and Elssler, are both immensely rich. How flourishing this world would be, if every body would turn actors and dancers.



## Christianity in China.

A number of Chinese converts, in Hong Kong, have associated themselves for combined efforts towards the diffusion of Gospel light, and have addressed a letter, signed by twenty persons, to the editor of the Missionary Leaf, published in Wurtemburg, from which it appears that Christianity produces similar effects in all countries. We subjoin a part of this letter, which must be highly interesting to every Christian in this country, who has been accustomed to suppose that the many millions in China were beyond the reach of the Gospel.

"Since we have experienced the Saviour's boundless grace, in calling us from idolatry to behold his wonderful light and to know his name, it has become our anxious desire to dedicate ourselves to our merciful Redeemer; and to make known to our benighted countrymen the glad tidings of salvation.***

"The labors which we propose to ourselves are, first of all, the preaching of the Word of Life. Our brother Chow has been distinguished in the use of this means of God, for he has been engaged whole days in proclaiming the Redeemer's dying love, and praying with his countrymen, both at their houses and under the open sky. Lohaou (otherwise known by the name of Aloko,) has often accompanied him, together with Gaehan, and both of these have, in their turn, made known the Word of Salvation. More than fifty villages in this neighborhood have thus been visited; the Gospel has been diligently published in Keuntuelo as well as in Chekchu, and more than one soul has been brought to the knowledge of the Saviour's glorious name. With few exceptions, the people are willing enough to listen; and on many occasions we have felt the nearness of the Lord, and have been led to praise his holy name for the wonderful things he is doing.

"We have generally three prayer meetings in the evening, chiefly attended by the poor laboring people. Aloko and Gaehan have such meetings at their houses daily. Yew Ching conducts the one in the Hong Kong dialect, and the attendance is sometimes very encouraging. Our old brother Chun is most successful in carrying the Word from house to house; his body is exceedingly weak, and his death cannot be far off, but he serves the Lord with a fervent spirit, and his exhortations are more impressive than those of any other of our brethren.

"Tsang stands foremost among those of our younger brethren who have united themselves with us. He uses two dialects with fluency and effect. Tae is next to him; he is a young man, accustomed to teaching, who manifested, in a short time, that God had called him to the blessed work of making known his name. Two others, Chang and Chaou, are desirous of being associated with us: we purpose writing, concerning them, in a subsequent communication.

"An old teacher, called Lo, and a zealous young man of the name of Chong, are at Chek-chu, whom we expect to become two of us; Pinglam is a well-meaning helper to our endeavors.

"Our brethren Ming and Koe have been very active in Hoklo district, visiting every ship that enters the harbor, and offering the treasure of eternal love. Their zeal is indefatigable, and their labors are effectual in finding entrance among the heathen. Inquirers are many, and an increasing number apply for baptism. Two merchants have opened their residences for Christian assemblies, and if the Saviour thus continues to own these weaks endeavors, many of the Hoklo people will be added to his church, whose migratory habits will tend to scatter the tidings of salvation in distant parts through their means. Our brethren are endeavoring to procure a piece of ground on which to build a place of Christian worship.

"Aloko, Chow, and our aged brother Chun have almost every Sunday evening had a numerous attendance at a chapel built on the Chinese market. The Lord crown his own work, and glorify his blessed name!

"Aloko has printed a number of tracts, and also the Gospel according to St. Mark. A larger number yet has been published by Gaehan, who has now in press a corrected edition of "the Life of our Saviour," the minor prophets, Isaiah, and the book of Exodus. The other prophets are in print already. Gaehan has just issued four hundred copies of the New Testament."

SUNDAY IN PARIS.—A correspondent of "Smith's Weekly Volume," in describing the appearance of Paris on Sunday, says, "not a single shop in all Paris is shut up; people were engaged in their several occupation, just as the day before: they were buying, riding and working at their trades just as usual. Hodmen were every where carrying their hods up ladders, and building went on as usual in all parts of the town."

WIRE FENCE.—A correspondent of the Prairie Farmer recommends the introduction of wire fences on the prairie, in preference to any other. The writer gives no estimate of expense; but we have examined the subject heretofore, and ascertained that a fence of the description recommended, with iron posts, would cost nearly $3 per rod. There can be no doubt of the efficiency and durability of such a fence, but the expense will be much higher than most farmers can afford.

PROPERTY IN BOSTON.—The valuation of the real and personal property in Boston has just been completed, and the whole amount is $135,000,000—real, $81,500,000; personal, $53,500,000. The increase since last year has been over *sixteen millions* of dollars.

WESTERN PORCELAIN.—Pitchers, bowls and various other articles are manufactured in Washington, Mo., from white clay, which is found in abundance in that country about the lead mines.

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## LETTERS AND RECEIPTS.

Nathan White, Bucksport, Me. $2; E. P. Abney, Higgin's Ferry, S. C. $2; Moses H. Shin, Canton, Ill. $1; J. N. Hastings, S. Hadley, Mass. $1; E. H. Newton, Cambridge, N. Y. $1: A. P. Chesley, Huron, Ohio, $3; Wm. Cox, New Harmony, Ind. $6.30; C. A. Hinckley, Baltimore, Md. $10; James M. Hutchson, Brownville, Pa., $1; J. G. Sanborn, Cherryfield, Me., $1; E. L. Manwaring, Oxford, N.Y., $1; Thos. Lefevre, Ledyard, N. Y., $1; Swain & Sherwood, Greensboro, N. C., $3; J. H. Magoffin, Fort Plain, N. Y., $1; A. H. Gleason, Unionville, Ct., $1; Henry J. Rogers, Baltimore, Md., $1; Chas. W. Rockhold, Canton, Ill., $2; Dr. Kinne, Trumansburg, N. Y., $1; G. C. Thompson, $1; H. J. Pitman, Bristol, R. I. $1; A. H. Phelps, Forrestville, N. Y. $5; H. M. Phetplace, Providence, R. I. $2; Demas Tiffany, Auburn, Mass. $2; Samuel Ellis, Ellsworih, Me. $1; E. J. Mims Edgefield, Charleston, S. C. $2; C. Silleck, $17; Horace Fitch, Alford, Mass. $1; Edward Nye, Alford, Mass. $1; George W. Salkeld, Mauch Chunk, Pa., $6; C. H. Smith, Natchitoches, La.; L. A. Taber, Canaan, N.H. $1; P. M., Marcellus Falls, N. Y. $2; James O'Brien, Washington, S. C. $1; P. M., Centreville, Indiana, $1; A. Jones, Hazelton, Pa. $1; P. M., West Winchester, Me. $2; C. B. Penniman, Williamstown, Mass. $4; J. G. Sanborn, Narraguagus, Me. $3; Thos. Boynton, Vt. $5; P. M, Blue Hill, Me. $2; W. H. Ward, Washington, D. C.; Peter Cook, Hartford, Conn.; John M. Davis, Lowell, Mass.; S. B. Hartley, New Alexandria, Pa. $1; H. T. Small, South Coventry, Conn. $1; P. M., Fairfield, Conn. $2; H. S. Snow, Meriden, Conn. $2; Thos. Ruse, Clayton, N. Y. $1; P. M., Gainesville, Ala. $4: P. M., Logansport, Indiana, $3; N. Isham, Mohawk, N. Y. $1; J. H. Vermillion, Newbern, Va. $2.

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*Manufactury, 189 Broadway, N. York.* au23

FOR the accommodation of the Public, at the Old Stand, 276 Bowery.—BENEDICT & SON, would respectfully inform their customers and the public in general, that they have been refitting their establishment and renewing their stock of Goods, consisting of the following articles, viz. Gold and Silver R & G Beesley and C I Tobias Levers, Chronometers, Duplex, Lepine and other Watches, too numerous to mention. Jewelry, consisting of fine diamond pins and rings, gold chains and miniature cases, gold fob and vest chains, Ladies' and Gents' fine bosom brooches, and a handsome assortment of rich gilt and marble parlour clocks.

Our Silver Ware consists of spoons, forks, knives, sugar tongs, soup, ladle, salt, mustard and egg spoons, &c., which are warranted to be as pure as coin. Silver sets made to order. A good assortment of *Britannia* and Plated Ware constantly on hand. You are invited to call and examine for yourselves.

*MARTIN BENEDICT,*
*JOHN J. BENEDICT.*

*N.B.—M.* Benedict would state to the public in general that he is no stranger in the city, having been established 22 years in business in the *Bowery*. The repairing of watches, jewelry, and French parlor clocks, attended to with strict punctuality. au23

## JOHN BROWN,

CARPENTER & PRINTERS' JOINER,

*Nos. 29 & 61 Ann-street, New York,*

MANUFACTURER of Cases, Stands, Furniture, &c. Stereotype Blocks, of various sizes.

Box-wood and Mahogany, for Engravers, always on hand.

Stereotype Plates blocked at short notice.

Press, Paper, and Letter Boards, of every description.

Book-binders' Cutting and Pattern Boards.

Stereotype Boxes, made to order.

Printers', Stereotypers, Type Founders', and Book-Binders' Jobbing Work done at the shortest notice.

N. B. Orders from various sections of the country solicited, and promptly executed. sep 4

## ADAMS & CO.'S EXPRESS,

TO PITTSBURG, PA.,
THROUGH IN FOUR DAYS!

THE subscribers respetfully inform the public that they have completed an exclusive contract with the proprietors of the well-known "Pioneer and Express Line," at Philadelphia, for the daily transportation of Iron Chests to Pittsburg, under their own locks and keys.

The arrangement of ADAMS & CO. are such as to insure greater despatch in the forwarding and delivery of valuable packages and parcels of every description than has been before offered to the public. The Pioneer and Express line being in perfect order and running through to Pittsburg in three and one-half days from Philadelphia.

☞ Merchants will find it to their interest to make Collections through the medium of Adams & Co.'s Express. It is the cheapest and most expeditious method, and the strictest attention will be given to collecting or paying Notes, Drafts, Bills, &c. &c.

Goods received before half past one o'clock are forwarded on the same day. Small packages received until half-past four o'clock P. M.

Adams & Co. run the only Package Express Cars to Philadelphia.

Agent in Philadelphia, E. Sandford.
" Pittsburg, R. W. Berford. sep 4

## BEEBE & COSTAR,

HATTERS,

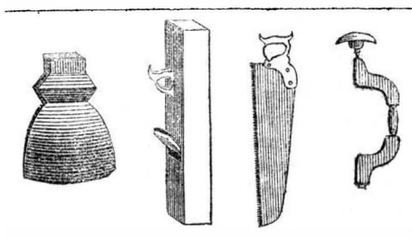
NO. 156 BROADWAY.

RESPECTFULLY invite those who are in want of a SUMMER HAT, to call at their establishment and get themselves fitted with one of their specially admired CRANIUM PROTECTORS, so light, airy, elastic and beautiful, that OLD SOL, through its agreeable and cooling intervention, is fairly set at defiance.

A splendid new article of

LEGHORN CAPS FOR CHILDREN,

with a variety of STRAWS, PANAMAS, &c. A beautiful article of Walking Stick, called the MALACCA CANE; with Cane Umbrellas, Cane Fishing-rods, Carpet Bags &c. &c. au23



## HENRY ROWNTREE,

IMPORTER OF, AND DEALER IN

*Mechanics' Tools, Hardware and Cutlery,*

No. 60 Chatham-st., (cor. of Chambers.)

AT the Tool Store, No. 60 Chatham street, corner of Chambers, at the sign of the Saw, Axe, and Plane, will be found good tools suitable, for the following Branches of trade.

Blacksmiths', Engravers, Hatters, Shoemakers,
Brushmakers, Farriers, Last-makers, Silversmiths,
Carpenters, Eurriers, Masons, Tanners,
Cabinet Makers, Gardeners, Machinists, Tinners,
Coach Makers Glaziers, Millwrights, Upholsters,
Carvers, Glovers Plumbers, Watchmakers,
Coopers, Gunsmiths, Pattern Makers, and
Chair Makers, Saddlers, Wheelwrights.

Which being made expressly to my orders, will be found good, and the Mechanic may place confidence in them.

H. R. assures his friends that he has no connection with any other store, and that at his store, State Prison Tools are NOT SOLD OR KEPT. sep 4

## DAGUERREOTYPES.

PRATT & CO.'S GALLERY OF COLOURED PHOTOGRAPHS, No. 293 Broadway, Laforge Buildings, Rooms Nos. 31 and 32, up stairs.

E. W. PRATT, late operator for Plumbe, flatters himself that he can give as good satisfaction as any other professor of the art. The public are requested to call and examine specimens. *Prices will vary from* $1 to $15.

Likenesses of deceased persons taken in any part of this city and vicinity.

Instruction will be given on more reasonable terms than at any other establishment in the city. au 26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